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PROCEEDINGS AT THE MEETINGS OF THE PHYSICAL SOCIETY

SESSION 1939–40

9 *February* 1940

At Birkbeck College, London, E.C. 4, the President being in the Chair.

It was announced that the Council had elected the following to Student Membership: Francis Henry Aldred, M. J. Daintith, James MacKenzie Falconer, Frederick William Fenning, Edward Francis Good, Margaret O. Holden, Stanley Naylor, Alan F. Phillips, Patricia Pilditch, A. B. Pippard, Basil Rose, Joan Southern.

The following papers were read:

"On the evaluation of e, m and h," by C. G. DARWIN, M.A., Sc.D., F.R.S.

"On the mode of action of the Geiger-Müller counter," by C. H. COLLIE, M.A. and D. ROAF, M.A., D.Phil.

"An all-electric clock," by P. VIGOUREUX, D.Sc. and H. E. STOAKES.

The following papers were read in title:

"The order-disorder transformation in the alloy Ni_3Mn," by N. THOMPSON, Ph.D.

"Sir Ambrose Fleming's method of electrification and Alfred Coehn's electrostatic experiments," by R. SCHNURMANN, Dr. Phil.

"The motion of a mercury index in a capillary tube: Part II," by G. D. YARNOLD, M.A., D.Phil.

"The electrification of mercury indexes in their passage through tubes," by G. D. YARNOLD, M.A., D.Phil.

"The optical constants of the copper-aluminium α-alloys," by L. MCPHERSON, M.Sc.

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26 *February* 1940

At the Royal Institution, Albemarle Street, London, W. 1, the President being in the Chair.

The following were elected to Fellowship: Christopher H. Buck, Harold Cafferata, Pierre Theo Charlier, Harold Leslie Cox, William Henry Dowland, Maurice Robert Gridley, Joseph Hewitt, B. Kalakicha, Charles Stephen Lees, Edwin John le Fevre, William Arthur Prowse, Ernest James Ryder, Bruce Sydney Smith, Leonard Walter Smith, Tom Brian Smith, Kurt Robert Swinton, Edgar Charles Woods.

The twenty-fourth Guthrie Lecture was delivered by Professor P. M. S. BLACKETT, M.A., F.R.S., who took as his subject "Cosmic rays: recent developments."

The following papers were read in title:

"Note on optical instruments of symmetrical construction," by T. SMITH, M.A., F.R.S.

"Molecular structure factors and their application to the solution of the structure of complex organic crystals," by GEORGE KNOTT, M.A.

"A note on the mechanism of boundary lubrication suggested by the static friction of esters," by A. FOGG, M.Sc.

"The heating of thin molybdenum films in a high-frequency electric field," by D. A. WRIGHT, M.Sc.

"Note on the second positive band system of nitrogen," by R. C. PANKHURST, B.Sc.

"The band spectrum of tin monotelluride," by R. F. BARROW, B.Sc.

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8 *March* 1940

At Birkbeck College, London, E.C. 4, the President being in the Chair.

The following were elected to Fellowship: Leonard Benedict Loeb, Charles Edwin Van Orstrand, Clive Leslie Williams.

A demonstration of flocculation in pigment systems was given by Miss D. L. TILLEARD, B.Sc.

The following papers were read:

"The colour of pigment mixtures," by D. R. DUNCAN, Ph.D.

"The use of uniform chromaticity scales," by J. G. HOLMES, B.Sc.

"The characteristics of protanomalous vision," by WINIFRED M. MCKEON, B.Sc. and W. D. WRIGHT, D.Sc.

The following papers were read in title:

"The boiling point of selenium," by M. DE SELINCOURT, B.A.

"The investigation of the magnetic properties of non-homogeneous systems: Part I, Experimental technique," by L. F. BATES, D.Sc., C. J. W. BAKER, B.Sc. and R. MEAKIN, B.Sc.

"The investigation of the magnetic properties of non-homogeneous systems: Part II, The magnetic properties of nickel amalgams," by L. F. BATES, D.Sc. and C. J. W. BAKER, B.Sc.

"The investigation of the magnetic properties of non-homogeneous systems: Part III, The properties of ferromagnetic cobalt and nickel in mercury," by L. F. BATES, D.Sc. and C. J. W. BAKER, B.Sc.

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19 *March* 1940

A joint meeting with the Plastics Group of The Society of Chemical Industry, at The Polytechnic, Regent Street, London, W. 1, the President being in the Chair.

A discussion on "The electrical and general properties of plastics" was opened by a paper on "The dielectric properties of some thermoplastics" by L. HARTSHORN, D.Sc., N. J. L. MEGSON, M.Sc. and E. RUSHTON, B.Sc., which was read by Dr. HARTSHORN. The following took part in the discussion: N. A. de Bruyne, W. Blakey, G. G. Burleigh, H. L. Cox, B. C. Fleming-Williams, F. C. Frank, Willis Jackson, W. J. O'Doherty, E. Stern, A. Morris Thomas, W. G. Wearmouth.

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4 *April* 1940

At the Imperial College, London, S.W. 7, the President being in the Chair.

The following were elected to Fellowship: Thomas Jamieson Buchanan, Karl Kelchner Darrow and Jacob Neufeld.

It was announced that the Council had elected to Student Membership: A. Howard Anstis, James Graham Ballantyne, John Weston Broadhurst, Edwin Oswald Cook, Philip Halliday, Thomas Anderson Straughan, David Arthur Tanfield, Robert Soulsby Tebble, Eric E. Welch.

A demonstration of an autofocusing industrial grating spectrograph was given by Mr. J. H. DOWELL of the Design Staff of Messrs. Adam Hilger, Ltd.

After an introduction by Professor G. I. FINCH, D.Sc., F.R.S., the following papers were read:

"The structure and orientation of silver halides," by H. WILMAN, Ph.D.

"Polish layers on nickel," by P. E. AXON, B.Sc., read by Dr. M. BLACKMAN.

The following papers were read in title:

"The sound-absorbing properties of some common out-door materials," by G. W. C. KAYE, O.B.E., D.Sc., F.R.S. and E. J. EVANS, B.Sc.

"The propagation of supersonics in liquids," by E. G. RICHARDSON, B.A., Ph.D., D.Sc.

"Vibrations of free square plates: Part II, Compounded normal modes," by MARY D. WALLER, B.Sc.

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29 *April* 1940

A joint meeting with the Cambridge Philosophical Society at the Cavendish Laboratory, Cambridge, the Chair being taken by the President of that Society in the first session of the meeting, and by the President of the Physical Society in the second session.

A discussion on "The Liquid State" was held, the opening paper being by Professor J. E. LENNARD-JONES, M.A., Ph.D., F.R.S., and the other contributions being:

"The viscosity of liquids," by Professor E. N. DA C. ANDRADE, D.Sc., F.R.S.,

"Relations between thermo-physical properties," by Professor ALLAN FERGUSON, M.A., D.Sc.,

"The distribution function of a simple liquid model," by J. CORNER, B.A.,

"On the theory of holes in liquids," by Professor R. FÜRTH

and concluding remarks by Professor N. F. MOTT, M.A., F.R.S.

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3 *May* 1940

At the Imperial College, London, S.W. 7, the President being in the Chair.

The following were elected to Fellowship: Gregory Breit and Ernst Schwarz.

A discussion was held on "The teaching of the fundamentals of electric and magnetic theory," the opening paper being "A new treatment of electric and magnetic induction," by G. BURNISTON BROWN, Ph.D. Subsequent contributors to the discussion were W. E. Benham, C. R. Cosens, C. L. Fortescue, L. Hartshorn, E. W. Marchant, J. Nicol, D. Owen, E. H. Starling, P. Vigoureux, J. B. Warren, W. Wilson.

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24 *May* 1940

At the Imperial College, London, S.W. 7, the President being in the Chair.

Ernst Billig was elected to Fellowship.

It was announced that the Council had elected the following to Student Membership: Bernard C. Abbott, Kenneth Denny Barritt, Ernest John French, Philip Robert Tunnicliffe.

The following demonstrations were given:

"The excitation of luminescence by flame," by L. T. MINCHIN, B.Sc.

"A heavy-current silica discharge tube of simple construction," by R. F. BARROW, B.Sc.

The following papers were read:

"The velocity of propagation of wireless waves over the ground," by F. T. FARMER, Ph.D. and H. B. MOHANTY, Ph.D.

"Normal and abnormal region-E ionisation," by E. V. APPLETON, M.A., D.Sc., F.R.S. and R. NAISMITH, M.I.E.E.

"The application of ionospheric data to radio communication problems: Part I," by E. V. APPLETON, M.A., D.Sc., F.R.S. and W. J. G. BEYNON, Ph.D., B.Sc.

"The resolving power of the magnetic electron lens used as a β-ray spectrometer," by V. E. COSSLETT, Ph.D.

The following papers were read in title:

"A sensitive method for the determination of moisture, applied to electric insulating materials," by R. S. VINCENT, M.Sc. and A. SIMONS, M.Sc.

"The scattering of D-D neutrons," by W. D. ALLEN, M.A. and C. HURST, M.A., D.Phil.

"Ultra-violet band systems of GeSe and GeTe and their relations to those of similar molecules," by R. F. BARROW, B.Sc. and W. JEVONS, D.Sc., Ph.D.

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7 *June* 1940

At the Imperial College, London, S.W. 7, the President being in the Chair.

Extraordinary General Meeting

The Minutes of the previous Extraordinary General Meeting were read and accepted as correct.

The following resolution was proposed from the Chair and carried unanimously:

"That the proviso of Article 55 of the Articles of Association be, and hereby is, suspended until the date of the Annual General Meeting in 1941."

Annual General Meeting

The minutes of the previous Annual General Meeting were read and accepted as correct.

The reports of the Council and the Hon. Treasurer were adopted.

The Officers and Council and the Auditors for 1939–40 were re-elected for 1940–41.

Votes of thanks were accorded to the Governors of the Imperial College, to the Officers and Council, and to Professor A. F. C. Pollard for his services in preparing the indexing slips for the *Proceedings*.

REPORT OF COUNCIL FOR THE YEAR ENDING 29 FEBRUARY 1940

GENERAL MEETINGS

An Annual General Meeting was held at the Imperial College on 10 March 1939, for the presentation and adoption of the Reports of the Council and the Honorary Treasurer and for the election of Officers and Council. It was preceded by an Extraordinary General Meeting at which Professors P. Debye and J. Perrin were elected Honorary Fellows.

SCIENCE MEETINGS

The period under review consists of six months of peace-time conditions and six of war, and the change of organisation necessitated by war-time conditions is reflected in a diminution in the number of science meetings held and in the number of papers presented. Twelve science meetings were held, of which ten were occupied by demonstrations, papers and discussions, and two by the Guthrie Lecture, the Thomas Young Oration and the presentation of the Duddell Medal. Nine demonstrations were given, 16 papers were read and discussed, and 35 papers were read in title only, compared with 12, 27 and 55, respectively, in the corresponding period of 1938–9.

Six of the meetings took place in the Physics Department of the Imperial College, by the kind permission of the Rector and Governing Body and of Professor G. P. Thomson. Of the others, one was held at Bedford College, Regent's Park, at the invitation of Professor W. Wilson; one at Birkbeck College; one at the University College, Southampton, on the occasion of the summer visit; and one, for papers on optical subjects alone, in the rooms of the British Scientific Instrument Research Association, Russell Square, through the courtesy of the Director of Research, Mr. A. J. Philpot. The remaining two science meetings took place in the lecture theatre of the Royal Institution, by kind permission of the Managers; the first was held jointly with the Chemical and Royal Meteorological Societies on 4 May 1939 for a discussion on " The Upper Atmosphere " and the second on 26 February 1940 for the Guthrie Lecture.

It is worthy of note that on 28 April 1939 a paper on, and demonstration of, a novel method of electrification, were given by the senior Fellow, Sir Ambrose Fleming. This paper appeared in the May 1939 issue of the *Proceedings* together with his Address and the reprint of the inaugural paper mentioned in last year's Report of the Council.

SUMMER MEETING AT SOUTHAMPTON

The Summer Meeting took place at Southampton on 3 June 1939, when parties of members of the Society and their friends visited (i) the Ordnance Survey Office, by the kind invitation of the Director, Major-General M. N. MacLeod, and (ii) the University College, through the courtesy of the Principal and Professor A. C. Menzies. Lunch was taken at Connaught Hall, one of the college halls of residence, by kind permission of the Warden. A science meeting was held in the Physics Department of the College, where short addresses on the work of the Physics, Chemistry and Engineering departments were given by Professor A. C. Menzies, Professor N. K. Adam and Professor T. R. Cave-Browne-Cave. This meeting was followed by a tour of the laboratories of these departments, where demonstrations and exhibits were arranged by members of the staffs.

THOMAS YOUNG ORATION

The eleventh Thomas Young Oration was delivered on 24 March 1939 at the Imperial College by Major-General M. N. MacLeod, Director of the Ordnance Survey Office, who took as his subject " Some Recent Developments in British Surveying Instruments ".

GUTHRIE LECTURE

The twenty-fourth Guthrie Lecture was delivered by Professor P. M. S. Blackett in the theatre of the Royal Institution on 26 February 1940 ; the lecture was entitled " Cosmic Rays: Recent Developments ".

DUDDELL MEDAL

The sixteenth Duddell Medal, the award of which was announced in the previous report of the Council, was presented on 24 March 1939 to Mr. Robert W. Paul for his work on the invention and design of scientific instruments and apparatus, notably the type of intermittent motion commonly used in cinematograph projection, unipivot electrical measuring instruments, and the Bragg-Paul pulsator for prolonged artificial respiration.

CHARLES CHREE MEDAL AND PRIZE

The report of the committee appointed to consider the regulations which shall govern the award of the Charles Chree Medal and Prize has been received and adopted by the Council. The award will be made, without restriction of nationality or of Fellowship of the Physical or any other Society, normally in alternate years beginning with 1941, for distinguished research in terrestrial magnetism, atmospheric electricity and related subjects, branches of knowledge in which Dr. Chree was specially interested. Each award is to consist of a silver medal, a parchment certificate of award and a sum of money, which normally, will be the balance of the income of the Prize Fund for the previous two years after deduction of the cost of the medal and certificate. There are special provisions which are to apply on any occasion when the Council and its advisers decide either that no award should be made or that the award should be shared between two collaborators. Government securities to the value (in mid-July 1939) of approximately £2000 were transferred to the Society by the founder, Miss Jessie S. Chree, who afterwards very generously added a further £50 to defray a part of the initial cost of the design of the medal and preparation of the dies, the balance of this cost being met by sale of some of the securities. The capital value of the remaining securities will constitute the Prize Fund. The design of the medal has been entrusted to Mrs. Ernest Gillick, and will, it is hoped, be completed during the summer of 1940.

REPORTS ON PROGRESS IN PHYSICS

Despite the abnormal times, volume 6 has recently been published and is as comprehensive in scope as any of the preceding volumes, the sales of which have again been highly satisfactory. The stock of volumes 1, 2 and 4 at the office has been exhausted, and members of the Society wishing to dispose of their copies of these volumes have been invited to return them to the office ; such copies are repurchased by the Society or exchanged for copies of volumes 3, 5 and 6.

BRISTOL CONFERENCE, 1939

Encouraged by the success of the conference held at Bristol in 1937, the Physical Society and the H. H. Wills Physical Laboratory arranged a second international conference at that Laboratory on 11, 12 and 13 July 1939 for a discussion on " Internal

Strains in Solids". An anonymous friend of the Society very generously made a donation of £200 towards the cost of the production of a report of the conference. This report forms the opening part of the current volume of the *Proceedings* (vol. 52, part 1, January 1940), and copies of it are already in wide demand.

THE SOCIETY'S PUBLICATIONS

Printing. Before the outbreak of war careful consideration had been given to the rising costs of the production of the Society's publications. Certain steps were decided upon for effecting economies, and it was also decided to entrust the printing to Taylor and Francis, Ltd. (who were the Society's printers from 1874 to 1910) beginning with volume 6 of the *Reports on Progress in Physics* and the first part of volume 52 of the *Proceedings* following the report of the Bristol Conference.

Editing. Captain C. W. Hume, who has been responsible for the editing during the whole of the inter-war period, took up his military duties in the Royal Corps of Signals shortly after the outbreak of war, and resigned the editorship at the end of 1939. For the present the whole of the editorial work is being carried out by the Honorary Secretary for Papers.

THE WORK OF THE SOCIETY UNDER WAR-TIME CONDITIONS

Steps have been taken for the continuation of as much as possible of the work of the Society during the war. The Institute of Physics having transferred its office from London to the University of Reading on the outbreak of war, the financial and working arrangements between the Society and the Institute of Physics have been suspended for the war period and will be considered afresh after the war. Certain emergency powers have been given to the Officers. The ordinary business of the Society is being continued at its London office, 1 Lowther Gardens, Exhibition Road, S.W.7, by the Honorary Secretary for Business and a small staff. Shortly after the outbreak of war, Miss J. I. Dennis, the Assistant Secretary, received an appointment in the Admiralty Department of Scientific Research and Experiment, and Mrs. M. Redmond has been appointed Acting Assistant Secretary.

As far as is possible the publication of the *Proceedings* and the *Progress Reports* is being continued as usual. The Society has purchased on favourable terms a stock of high-grade paper and of binding cloth to ensure that for two years at least there shall be no deterioration in the material quality of the publications.

The programme card prepared for the session 1939–40, which contained even more fixtures than that of the previous session, was not printed. Science meetings were suspended from the opening of the session until early in February, but are now being resumed at approximately fortnightly intervals. It has been found possible to adhere to some of the previous arrangements, such as those for (i) the twenty-fourth Guthrie Lecture, (ii) a joint meeting with the Plastics Group of the Society of Chemical Industry for a discussion on "The electrical and general physical properties of plastics", (iii) a joint meeting with the Cambridge Philosophical Society for a discussion on "The liquid state", and (iv) a meeting for optical papers only.

Many features of the programme, however, have had to be cancelled for the present; namely (i) the Exhibition of Scientific Instruments and Apparatus, with the Discourses and the Competition in Craftsmanship and Draughtmanship, (ii) the first Rutherford Memorial Lecture, (iii) a joint meeting with the Science Masters' Association for a discussion on "The teaching of physics in schools", (iv) a discussion on "The teaching of optics", (v) a discussion on "Micro waves", (vi) a special science meeting at St. Bartholomew's Hospital Medical College, (vii) the 1940 summer meeting, which was to have

been at Oxford, and (viii) the first two of a proposed series of Northern Universities Meetings for informal joint discussions by the physics staffs of those universities and other research laboratories in their neighbourhoods.

To help the Society in carrying out its present work at a difficult time when considerable reductions of its income are almost inevitable, a very generous donation of £500 has been made to the Society by a Fellow who wishes to remain anonymous.

HERBERT SPENCER BEQUEST

Several applications for grants for research by Fellows of the Society were received and considered by the Council, and a grant was made to Dr. C. A. Beevers in connection with his demonstration of a machine for the rapid summation of Fourier series.

The radium-beryllium neutron source has been lent to Professor G. P. Thomson for a further session ending June 1940.

A typewriter and an addressing machine have been purchased for the office, and a number of standard works in physics have been purchased for the library.

PRESENTATIONS TO THE SOCIETY

Through the kindness of Professor Coleridge Farr of Canterbury College, Christchurch, and the Director of the Cawthron Institute, Nelson, New Zealand, the Society has received a photograph of Lord Rutherford's birthplace.

Lady Barrett has generously presented to the Society a number of books of historic interest formerly in the possession of Faraday and of her husband, the late Sir William Barrett.

REPRESENTATION OF THE SOCIETY

The Physical Society has been represented on other bodies as follows:

British National Committee for Physics: Mr. J. H. Awbery, Mr. T. Smith, Professor A. M. Tyndall.

British National Committee for Scientific Radio: Professor E. V. Appleton, Professor L. S. Palmer.

Royal Society Physical Publications Committee: Professor A. Ferguson, Mr. J. H. Awbery, Professor C. D. Ellis.

Committee of Management of Science Abstracts: Professor A. Ferguson, Mr. J. H. Awbery, Dr. W. Jevons, Dr. D. Owen.

Geophysical Committee of the Royal Astronomical Society: Dr. F. J. W. Whipple.

Board of the Institute of Physics: Dr. D. Owen, Mr. J. H. Awbery.

British Standards Institution Committee for Photographic Standardisation and Preparation of Standards for Sensitometry: Dr. R. W. B. Pearse.

British Standards Institution Committee on Methods for the Measurement of Flow and Pressure of Gases and of Temperature: Dr. E. Griffiths.

British Standards Institution Committee on Units and Data: Dr. H. T. Flint.

British Standards Institution Standing Committee on Standardisation of Letter Symbols: Professor G. I. Finch.

Royal Engineer and Signals Board: Dr. C. V. Drysdale.

OBITUARY

The Council records with deep regret the deaths of Professor F. J. Cheshire, Sir Frank Dyson and Professor R. A. Sampson, who were Honorary Fellows of the Optical Society; and the deaths of the following Fellows: Mr. C. O. Bartrum, Mr. J. E. Crackston, Colonel R. E. B. Crompton, Mr. G. A. Cruikshank, Mr. H. P. Hollis, Mr. F. C. Watts. Several members of the Council attended the memorial service for Colonel Crompton in St. Margaret's, Westminster, on 22 February 1940.

MEMBERSHIP ROLL ON 31 DECEMBER 1939

	Total 31 Dec. 1938	Changes during 1939			Total 31 Dec. 1939
Honorary Fellows	9	Elected		2	11
Honorary Fellows (Optical Society)	8*	Deceased		3	5
Ex-officio Fellows	4				4
		Net decrease ..		1	
Ordinary Fellows	940	Elected	30		
		Student Transfers ..	19		
				49	
		Deceased	7		
		Resigned or lapsed	22		
				29	
		Net increase ..		20	960
Student Members	91	Elected		37	
		Transferred ..	19		
		Resigned or lapsed	5		
				24	
		Net increase ..		13	104
Total Membership	1052*	Net increase ..		32	1084

* Erroneously stated in last year's report as 7 and 1051.

REPORT OF THE HONORARY TREASURER FOR THE YEAR ENDED 31 DECEMBER 1939

THE accounts show an excess of income over expenditure of £159 11*s.* 8*d.*, and it is satisfactory to note that the emergency conditions which have prevailed since 1 September 1939 have not affected the Society's financial position to any marked extent.

The publication of the *Reports on Progress in Physics* has again been carried out without charge on the general funds of the Society.

The value of the stock of publications on 31 December 1939 exceeded £1000.

The unexpended balance of the Herbert Spencer Bequest now amounts to £302 6*s.* 0*d.*, all of which has been allocated.

Members will note the generous gifts of £200 and £500 made anonymously to the funds of the Society.

No change has been made in the Society's investments. These have been valued at market prices on 30 December 1939, through the courtesy of the Manager of the Charing Cross Branch of Westminster Bank, Ltd.

(Signed) C. C. PATERSON,
Honorary Treasurer.

17*th May* 1940.

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31 DECEMBER 1939

1938 £ s. d.	Expenditure	£ s. d.	£ s. d.
	To		
328 14 2	"Science Abstracts"		221 8 9
	Normal Publications:		
2418 18 2	"Proceedings" and Exhibition Catalogue	2271 6 10	
65 9 9	Notices	94 1 2	
182 13 1	Editorial and General Expenses	126 8 8	
			2491 16 8
	Special Publications:		
	"Reports on Progress in Physics"		
800 18 2	(Vol. V)	834 3 0	
7 15 8	Other Publications	8 1 7	
			842 4 7
373 4 10	Postage on Normal Publications and General Correspondence		333 5 2
24 11 3	Expenses at Meetings		43 7 2
17 5 11	Periodicals and Library		20 13 4
	Institute of Physics:		
604 17 0	Clerical Assistance and Office Expenses	444 14 2	
337 10 2	Electricity, Labour and Sundries in connexion with Exhibition	324 3 10	
			768 18 0
18 11 10	Summer Visit		14 16 1
40 0 0	Honoraria to Lecturers		40 0 0
218 5 0	Sundry Expenses		319 4 6
52 17 1	Printing and Circulating List of Members		
	Balance, being excess of Income over Expenditure, carried forward to Accumulated Fund		159 11 8
£5491 12 1			£5255 5 11

1938 £ s. d.	Income	£ s. d.	£ s. d.	£ s. d.
	By			
	Subscriptions:			
38 17 0	Entrance Fees	24 2 0		
1678 5 1	Fellows	1715 19 7		
3 3 0	Voluntary			
43 11 6	Students	42 10 6		
111 8 2	For "Science Abstracts" and Advance Proofs	113 3 1		
			1895 15 2	
	Sales:			
900 1 3	Normal Publications	833 1 2		
5 2 4	International Conference Reports	6 16 7		
843 9 3	"Progress Reports"	787 9 2		
			1627 6 11	
471 16 7	Advertisements in Publications		478 10 5	
	Dividends from Investments	320 9 7		
	Less Transfer to Duddell Memorial Fund (£ s. d. 14 0 0)			
	Transfer to Charles Chree Medal and Prize Fund (37 13 0)			
		51 13 0		
281 15 7			268 16 7	
	Exhibitors' and other payments on account of Exhibition		984 16 10	
919 15 8	Transfer from Life Composition Fund of amounts paid by Fellows now deceased			
72 0 0				
	Balance, being excess of Expenditure over Income, carried forward to Accumulated Fund			
122 6 8				
£5491 12 1			£5255 5 11	

BALANCE SHEET AS ON 31 DECEMBER 1939

LIABILITIES

	£ s. d.	£ s. d.	£ s. d.
Sundry Creditors		811 13 6	
Life Compositions:			
As on 31 December 1938	1508 0 0		
Add Payments during year	31 10 0		
		1539 10 0	
Subscriptions and Donations received in advance:			
Members	18 7 6		
Publications	38 3 1		
Anonymous Donation	200 0 0		
Anonymous Donation	500 0 0		
		756 10 7	
			3107 14 1
SPECIAL FUNDS			
W. F. Stanley Trust Fund		259 0 0	
Duddell Memorial Trust Fund		373 14 9	
"Progress Reports" Reserve Account		83 1 0	
Herbert Spencer Legacy		302 6 0	
Charles Chree Medal and Prize Fund		2099 13 0	
			3117 14 9
GENERAL FUND			
Accumulated Fund:			
As on 31 December 1938		3146 14 0	
Less Decrease in value of Investments		169 0 0	
		2977 14 0	
Add Balance of Income and Expenditure Account		159 11 8	
		3137 5 8	
A. W. Scott Bequest		173 11 11	
			3310 17 7
			£9536 6 5

ASSETS

	£ s. d.	£ s. d.	£ s. d.
Investments at Market Value on 31 December 1939:			
£2100 Consolidated Stock 2½ %	1438 0 0		
£1000 War Loan 3½ % Inscribed "A" Account	935 0 0		
£750 War Loan 3½ % Registered	701 0 0		
£650 Funding Loan 4 %	695 0 0		
£500 India 3½ % Stock	412 0 0		
£400 Lancaster Corporation 3 %	364 0 0		
£399 London Midland and Scottish Railway 4 % Debenture Stock	355 0 0		
£1000 London Midland and Scottish Railway 4 % Preference Stock	595 0 0		
£500 London and North Eastern Railway 4 % Debenture Stock	412 0 0		
£150 Southern Railway 5 % Debenture Stock	171 0 0		
£300 Southern Railway Preferred Ordinary Stock	199 0 0		
£442 Southern Railway Deferred Ordinary Stock	60 0 0		
£400 War Loan 3½ % Inscribed "B" Account	374 0 0		
£920 Funding Loan 4 % Registered	985 0 0		
£1500 Consolidated Stock 2½ % Registered	1027 0 0		
		8723 0 0	
Dividends due from Investments		38 2 7	
Inland Revenue—Income Tax claimed for 1939		33 0 2	
Subscriptions due		41 8 5	
Sundry Debtors		193 13 9	
Cash at Bank: Current	491 4 10		
Cash in Savings Bank Account	13 2 0		
Cash in Hand	2 14 8		
		507 1 6	
		£9536 6 5	

C. C. PATERSON, *Honorary Treasurer.*

We have audited the above Balance Sheet and have obtained all the information and explanations we have required. We have verified the bank balances and the Investments. In our opinion such Balance Sheet is properly drawn up so as to exhibit a true and correct view of the state of the Society's affairs according to the best of our information and the explanations given to us and as shown by the books of the Society.

SPENCER HOUSE, SOUTH PLACE, E.C. 2.
14*th May* 1940.

KNOX, CROPPER & Co.,
Chartered Accountants.

LIFE COMPOSITION FUND ON 31 DECEMBER 1939

	£	s.	d.
38 Fellows paid £10	380	0	0
1 Fellow paid £15	15	0	0
14 Fellows paid £21	294	0	0
27 Fellows paid £31 10s.	850	10	0
	£1539	10	0

SPECIAL FUNDS

W. F. STANLEY TRUST FUND

	£	s.	d.		£	s.
Carried to Balance Sheet	259	0	0	£300 Southern Railway Preferred Ordinary Stock	199	0
				£442 Southern Railway Deferred Ordinary Stock	60	0
	£259	0	0		£259	0

DUDDELL MEMORIAL TRUST FUND

Capital

	£	s.	d.		£	s.
Carried to Balance Sheet	374	0	0	£400 War Loan Inscribed "B" Account	£374	0

Revenue

	£	s.	d.		£	s.
Engraving Medal	2	2	0	Balance on 31 December 1938	2	16
Honorarium to Medallist	15	0	0	Interest	14	0
				Balance carried to Balance Sheet		5
	£17	2	0		£17	2

A. W. SCOTT BEQUEST

	£	s.	d.		£	s.
Balance carried to Balance Sheet	173	11	11	Balance as on 31 December 1939	173	11

"PROGRESS REPORTS" RESERVE ACCOUNT

	£	s.	d.		£	s.
Balance carried to Balance Sheet	83	1	0	Balance as on 31 December 1938	83	1

HERBERT SPENCER LEGACY

	£	s.	d.		£	s.
Grants for Research	242	12	6	Balance as on 31 December 1938	581	17
Furniture and Library	36	18	6			
Balance carried to Balance Sheet	302	6	0			
	£581	17	0		£581	17

CHARLES CHREE MEDAL AND PRIZE FUND

	£	s.	d.		£	s.
Balance carried to Balance Sheet	2062	0	0	£920 4 % Funding Loan	985	0
				£1500 2½ % Conversion Loan	1027	0
				Donation, Miss Chree	50	0
	£2062	0	0		£2062	0

Revenue

	£	s.	d.		£	s.
Balance carried to Balance Sheet	37	13	0	Interest	37	13